

1. A method of producing an antibody to a target antigen in an animal, comprising contacting said animal with a genetically-matched cell containing a heterologous nucleic acid, said nucleic acid encoding said target antigen.

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2. The method of claim 1, wherein said animal and said cell are syngeneic at major histocompatibility complex (MHC) loci.

10 3. The method of claim 1, wherein said cell expresses a gene product encoded by said nucleic acid.

4. The method of claim 3, wherein said gene product is expressed on a surface of said cell.

15 5. The method of claim 1, wherein said animal is adult and said cell is obtained from the same or different adult animal.

6. The method of claim 1, wherein said animal is a member of an avian species.

7. The method of claim 6, wherein said animal is a chicken.

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8. The method of claim 1, wherein said animal is a rodent.

9. The method of claim 1, wherein said animal is a member of a murine species.

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10. The method of claim 9, wherein said animal is a mouse.

11. The method of claim 8, wherein said animal is a rabbit.

12. The method of claim 1, wherein said cell is an undifferentiated stem cell.

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13. The method of claim 1, wherein said cell is a differentiated cell.

14. The method of claim 1, wherein said cell is not an embryonic cell.

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15. The method of claim 1, wherein said cell is derived from a mature animal.

16. The method of claim 1, wherein said cell is a spleen cell.

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17. The method of claim 1, wherein said cell is a bone marrow cell.

18. The method of claim 1, wherein said cell is immortalized.